

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 87-035

SITE CLEANUP REQUIREMENTS FOR:

KTI CHEMICALS INCORPORATED
SUNNYVALE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. KTI Chemicals Incorporated (hereinafter called the discharger) operates a chemical distribution facility on 1120 Sonora Court in Sunnyvale, Santa Clara County. The facility was constructed in 1973 and is involved with repacking, blending, and filtering of photo chemicals for various Silicon Valley industries.
2. Subsurface investigations initiated in early 1983 revealed significant levels of organic chemical pollution (initial concentration was as high as 200 ppm and current average is 2.6 ppm) in the groundwater beneath the site, primarily odorless mineral spirits (OMS). The apparent source was a defective joint in the piping associated with the OMS underground tank. The latest information suggested that groundwater contaminations were found localized on the discharger's site with no evidence of offsite migration. The contamination extends laterally 150 feet downgradient and vertically to a depth of about 25 feet.
3. The discharger has undertaken investigations to define the extent of pollution and has evaluated various remedial measures to remove OMS from the groundwaters. Because of the difficulty of removing OMS from the soil, the discharger concluded that in-situ biodegradation would be most cost effective remedial action approach for the clean-up of OMS. The proposed system involves pumping groundwater to prevent further contaminant movement, then reinjecting the extracted water back into the ground along with added nutrients and oxygen to promote microbial breakdown of the contaminants. By letter dated November 5, 1986, the Executive Officer, in order to expedite the cleanup, requested that the discharger begin discharging extracted groundwater prior to issuance of an NPDES permit, and stated that he would not recommend that the Board institute enforcement action provided that the remedial system is monitored and operated so as to reduce the total concentration of OMS in the effluent to less than 100 ppb. The above system was fully operational on January 23, 1987 and is currently discharging to Sunnyvale POTW. According to the company's latest acute aquatic toxicity tests, a 96 hour LC50 value of OMS is about 34 ppm.

4. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwaters.
5. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:
 - a. Industrial process water supply
 - b. Industrial service supply
 - c. Municipal and Domestic supply
 - d. Agricultural supply
6. The discharger has caused or permitted, and threatens to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.
7. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
8. Onsite interim containment and cleanup measures need to be implemented to alleviate the threat to the environment posed by the continued migration of pollutants and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives.
9. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of polluted soil or groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The discharger shall conduct monitoring activities as needed to define the current local hydrogeologic conditions, and the lateral and vertical extent of soil and groundwater pollution. Should monitoring results show evidence of plume migration, additional plume characterization may be required.

C. PROVISIONS

1. The discharger shall submit to the Board technical reports on self-monitoring work performed according to a program prescribed by or amended by the Board's Executive Officer.
2. The discharger shall comply with Prohibitions A.1., A.2., and A.3., and Specifications B.1. and B.2. above, in accordance with the following time schedule and tasks:

COMPLETION DATE/TASK:

- a. COMPLETION DATE: Completed

TASK: Submit a technical report satisfactory to the Executive Officer which documents the commencement of the biodegradation program facilities necessary to treat the polluted groundwater beneath the site.

- b. COMPLETION DATE: July 15, 1987

TASK: Submit a technical report satisfactory to the Executive Officer which evaluates the effectiveness of the onsite hydraulic containment system to prevent any contaminant migration from KTI's property. Such an evaluation shall include, but need not be limited to, a confirmation of the flow capture zone of the extraction wells, establishment of the cones of depression by field

measurements, and presentation of chemical monitoring data. Specific modifications to the system and an implementation time schedule shall be proposed in the event that the hydraulic control system is demonstrated not to be effective in containing and cleaning up the onsite pollutant plume.

c. COMPLETION DATE: September 15, 1987

TASK: Submit a technical report satisfactory to the Executive Officer which contains a literature review of potential by-products from the biodegradation of OMS. The report shall include an evaluation of analytical methods to identify degradation products of OMS and to assure adequacy of groundwater sampling programs to document containment of pollution.

d. COMPLETION DATE: July 15, 1988

TASK: Submit a technical report acceptable to the Executive Officer containing the results of the remedial investigation; an evaluation of the installed interim remedial measures; a feasibility study evaluating alternative final remedial measures; the recommended measures necessary to achieve final cleanup objectives; and the tasks and time schedule necessary to implement the recommended final remedial measures.

3. The submittal of technical reports evaluating interim and final remedial measures will include a projection of the cost, effectiveness, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), Section 25356.1 (c) of the California Health and Safety Code, and CERCLA guidance documents, and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California."
4. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger(s) shall promptly notify the Executive Officer. In the event of such delays, the Board may consider modification of the task completion dates established in this Order.

5. Technical reports on compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted monthly to the Board commencing on July 15, 1987. On a monthly basis thereafter, these reports shall consist of a brief letter report that, (1) summarizes work completed since submittal of the previous report, and work projected to be completed by the time of the next report, (2) identifies any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles, and (3) includes, in the event of non-compliance with Provisions this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.
6. On a quarterly basis, commencing with on July 15, 1987, the technical report shall include, but need not be limited to, updated water table and piezometric surface contour maps, pollution concentration contour maps for all affected water bearing zones, cross-sectional geological maps describing the hydrogeological setting of the site, and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying adjacent facilities and structures.
7. The discharger shall submit to the Board according to the schedule show below technical reports acceptable to the Executive Officer containing Quality Assurance Project Plan, Site Safety Plans, and Site Sampling Plans. The Quality Assurance Project Plan, Site Safety Plan, and Site Sampling Plans format and contents shall be consistent with CERCLA regulations and guidance documents.

<u>Technical Report</u>	<u>Date Due</u>
a. Quality Assurance Project Plan	May 15, 1987
b. Site Sampling Plan	May 15, 1987
c. Site Safety Plan	May 15, 1987

8. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist, engineering geologist or professional engineer.
9. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

10. The discharger(s) shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
11. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be provided to the following agencies:
 - a. Santa Clara Valley Water District
 - b. Santa Clara County Health Department
 - c. City of Santa Clara and City of Sunnyvale
 - d. State Department of Health Services/TSCD

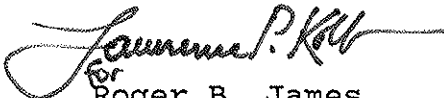
The Executive Officer may additionally require copies of correspondence, reports and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order to be provided to the U.S. Environmental Protection Agency, Region IX, and to a local repository for public use.

12. The discharger(s) shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:
 - a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
13. The discharger(s) shall file a report on any changes in site occupancy and ownership associated with the facility described in this Order.
14. If any hazardous substance is discharged in or on any Waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any Waters of the State, the discharger shall report such a discharge to this Regional Board, at (415) 464-1255 on

weekdays during officer hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Regional within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons notified.

15. The Board will review this Order periodically and may revise the requirements when necessary.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 15, 1987.


for
Roger B. James
Executive Officer

